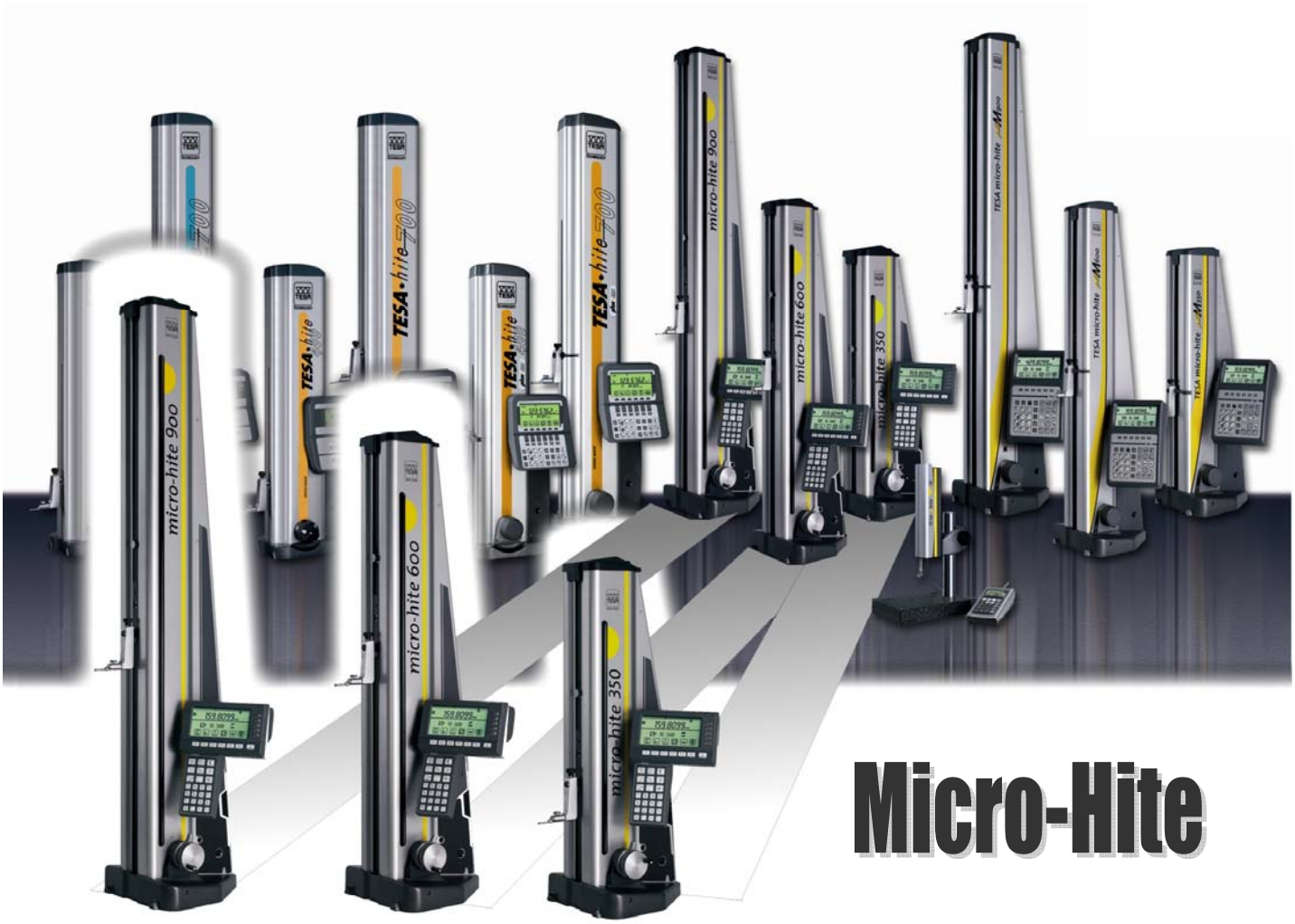


Traditional manual height gage made for unique measurement feeling. The high end mechanic construction is the result of years of experience and gives you an exceptional measurement quality. The manual displacement is for used operator fast and safe. This top quality instrument due to strong construction and top mechanic makes his difference on diameter measurements.

Special features	*- High end mechanic for top measurement feeling.* *- Easy probing, quick and reliable, especially for bores and shafts.* *- Advanced measuring features* *- Measurement programs for repetitive parts* *- High quality air cushion* *- Application flexibility using various accessories.*

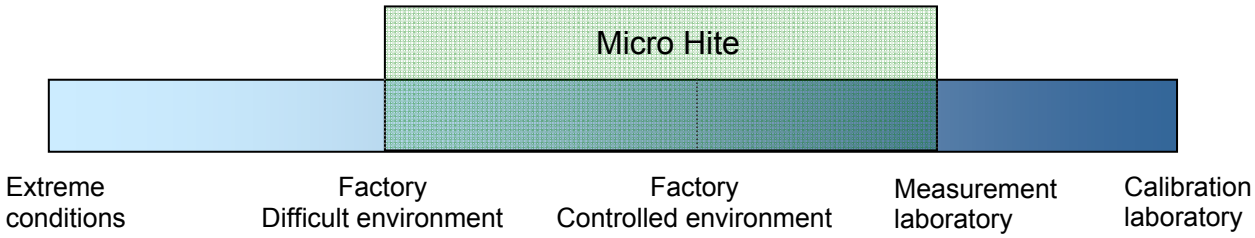
Accuracy in all situations with sensitive measurement.	
Maximum permissible errors Limit deviations	*2+3*L µm (L in m)*
Repeatability limit (2 σ)	*1 µm*

Main characteristics

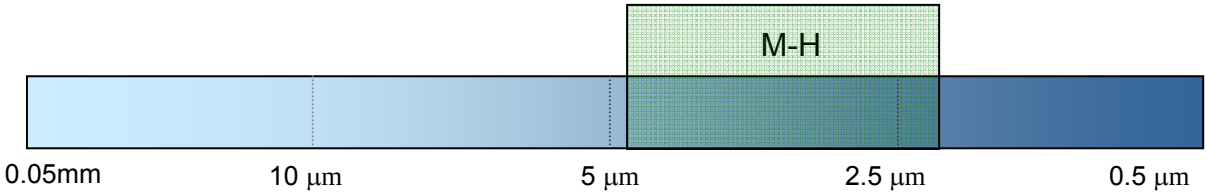
Application

Manual measuring instrument with 1 or 2 dimension features on various geometric elements.
The measurement of shafts and bores can be made by automatic or manual process for reverse point acquisition.
The memory features «max.», «min.» and «max.-min.» on dynamic and perpendicularity measurement allows with digital probe TESA IG-13 calculation of straightness, parallelism and axial run out.

Environment



Accuracy



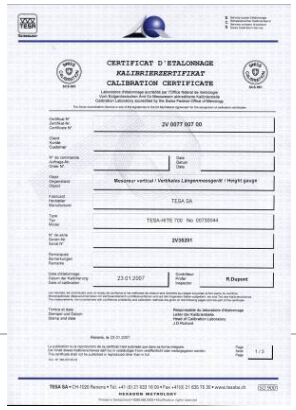
Features

	Standard	Special acc.	1D	⌀	//	⊥	∠	2D		motorised
2+3*L µm (L in m)	1075 mm	1300 mm	•	•	•	•	•	•	•	-

Data output	Digital interface **RS 232**

Concept & technology
TESA Design SWISS MADE — *Produced and controlled 100% in Switzerland*

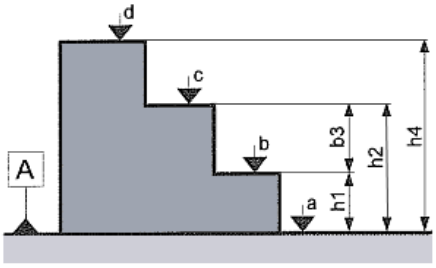
Certificate	SCS calibration certificate


CERTIFICAT D'ETALONNAGE
KALIBRIERZERTIFIKAT
CALIBRATION CERTIFICATE

Measure properties

The Micro Hite height gauges, certainly the most popular. The mechanism and the use became over the years the reference.
A key functionality directly to use on all instruments of the TESA height gauges range is the simple consider of the last two measures. With a simple key calculate and display the difference between the previous measures

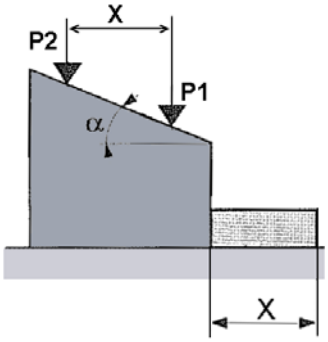
Simple mode



Mode n°1

This mode works for all measurement done in one direction from top or below. No calibration procedure is necessary after switch on the instrument.

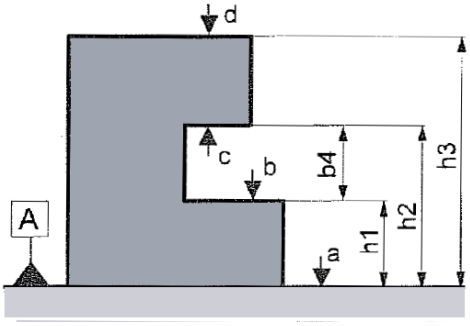
Angle mode



Angle measurement

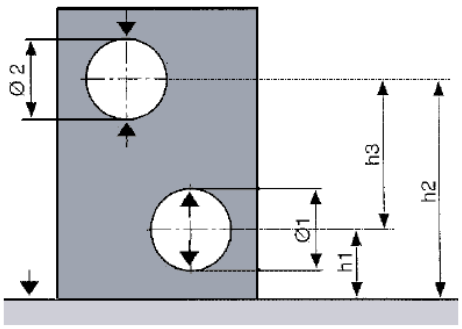
The angle calculation is done with considering X distance and Z height of two point. The X distance can be between features or simply a gauge bloc in both cases the value has to be measured.

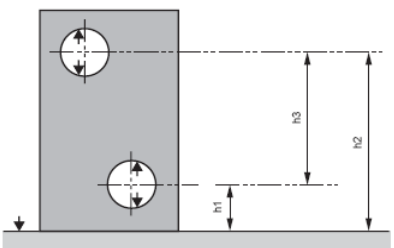
Calibrated mode



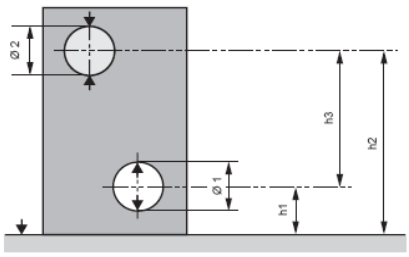
Mode n°2

Calibrated mode is fitting to most needs and considers the exact size of the measuring insert. After measuring and setting the probe constant the measure of distances, diameter and automatic calculation is simply displayed.
The Δ function gives on one button pressure results about distance between bore axes or groves considering last two measurements.





Measure without reverse point search, no diameter details are given.

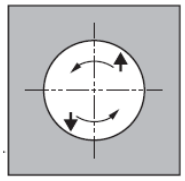


The reverse (min and max) point gives the possibility of diameter value and position.

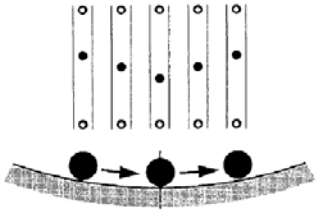
A full measurement of shaft or bores involves not only position but also diameter. It is necessary to take reverse point. In opposite to other instruments, has the Micro Hite manual 2 different ways to get those features measured.

Calibrated mode, bore measurements

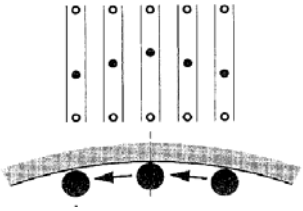
Automatic procedure



The measuring system saves automatically the highest and lowest point. By moving the part, those points are recorded and the calculated difference gives diameter and position of the bore.



After go on contact, keep pressure, a LED appears on the instrument body. Block the slide and move the part over the minimum point. An acoustic signal confirms the registered reverse value.

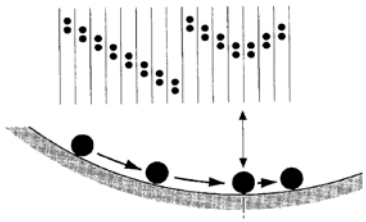


The same procedure should be done on the top, once the highest point recorded, the panel displays automatically details like position of the axis and diameter.

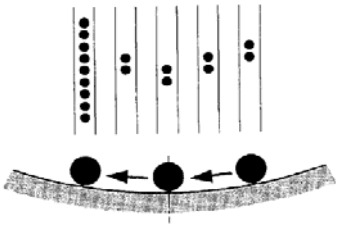
The Micro Hite height gage makes the difference on excellent performance on diameter measurements. The additional LED display is giving more possibilities on reverse point research.

Manual procedure

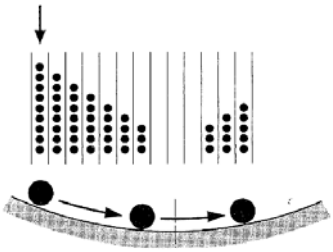
The manual procedure defines the exact position of the lowest or highest point and then measure without moving the part, diameter and axis position.



After go on contact and lock of the slide, a double press and the command button on the wheel, introduce a new LED display form.

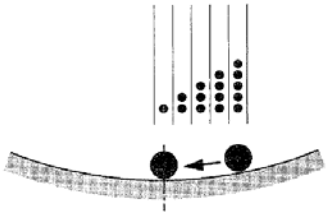


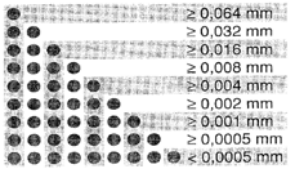
After moving two time over reverse point, the display change automatically to fine adjustment.

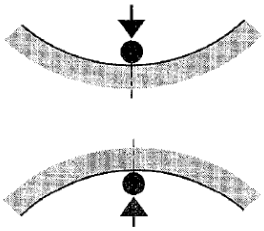


Position now the part so that a minimum of green LED are on.

This positioning system is sensitive to a half micron.

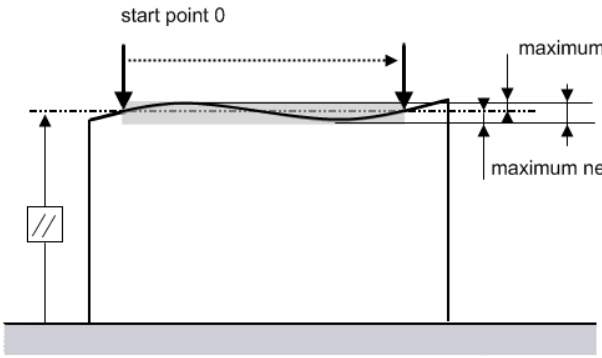






The part is now on the correct position, part and instrument have not to move. Probing down and probing up will give the diameter and axis position.

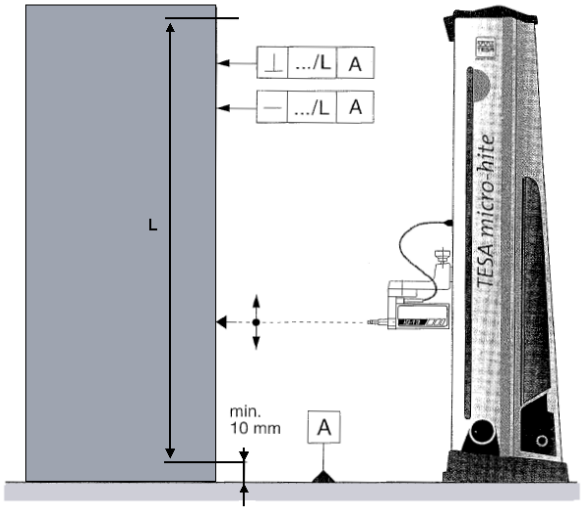
Parallelism mode



Function parallelism

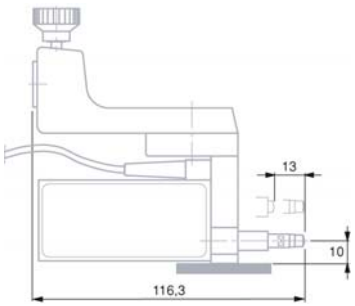
The parallelism measurement establishes the deviation of a surface according to the reference surface. Results are given as deviation of parallelism, maximum value and minimum value.

Perpendicularity, straigthness and runout mode

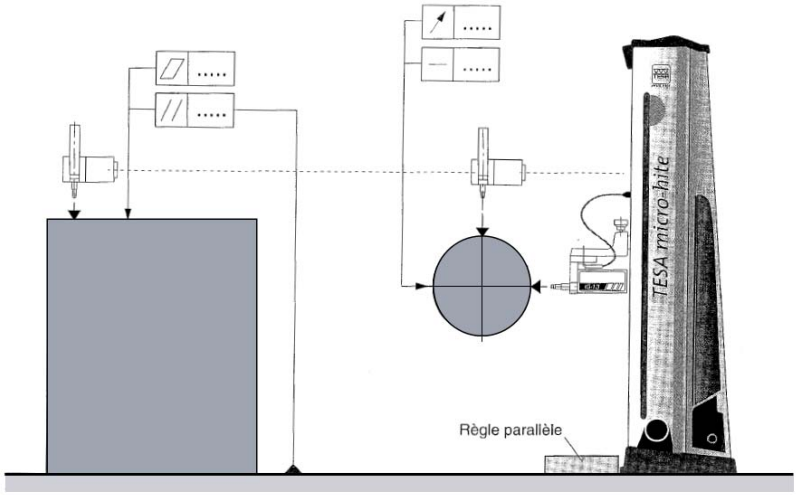


Advanced function, perpendicularity, straightness and run out.

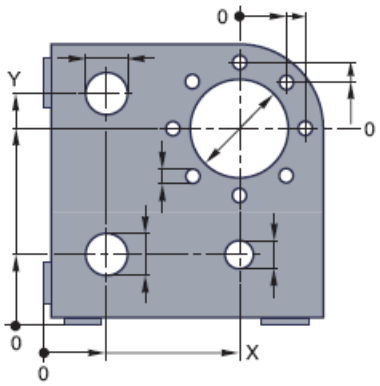
An external measurement system dedicated to Micro Hite and Mirco Hite plus M offers an accurate measuring input on another axis.
Directly connected on the slide, the PowerPanel measure with this, perpendicularity deviation, linearity, angle deviation and measured length, mentioned numerically and additionally the graphic of measured line.



Set TESA IG 13	00760140
Content:	
Probe IG 13	*00760139*
Probe holder	*00760138*
Handling shaft	01960005
extension 10mm probe tip	03540501



Measuring configuration for determining straightness flatness and parallelism with reference to the working surface of the surface plate as well as for run-out errors.



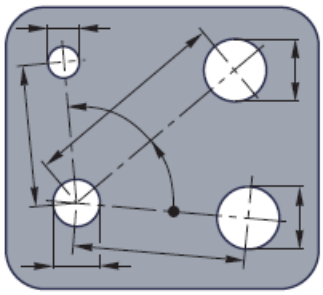
Mode de measure n°2 Application 2D

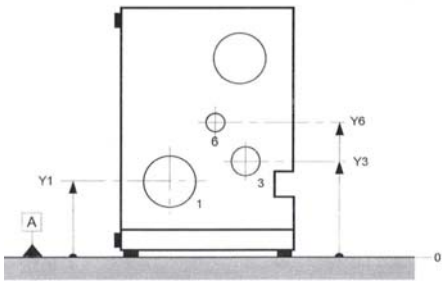
Access to the 2D mode is done true the advanced menu, it's necessary to do.

- Calibration of the probe tip before entering the 2D mode
- References have to be taken, before or at least entering the 2D mode

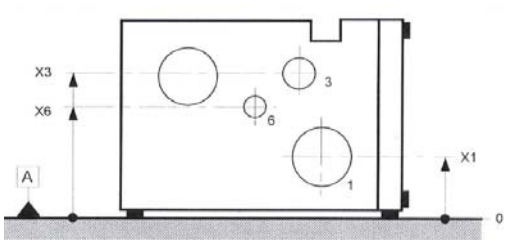
Measurements previously done in the 1D mode are automatically saved in the buffer, an option let choose between delete them or keep them.
Option for the height measurement:

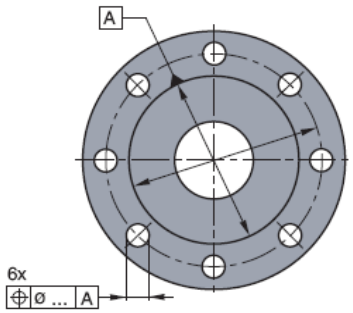
- With reverse point search, where in 2D mode a single rotation of the wheel start the correct measurement feature.
- Without reverse point search, the details are not shown during process.





Part rotation

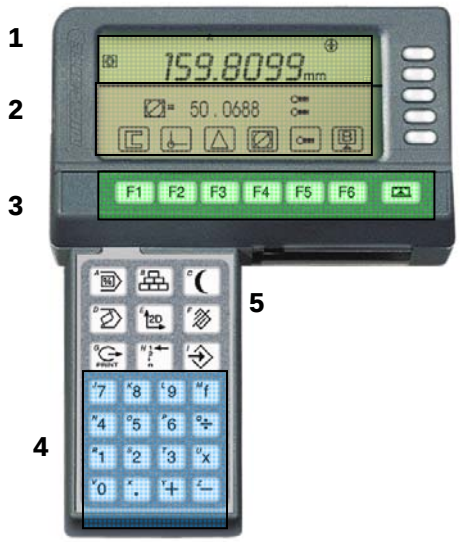




The 2D mode is an additional function for bores and shafts. More than diameter information, all features are related and positions between units are given. Rotation and offset references is simply possible.
Those measurements can be add into an existing program or be a specific control.

Display unit POWER Panel

The panel is the user interface it is entire part of the instrument and makes the link between simple values and calculated features. A strong panel for factory environment and logical way to work are main points for user and long time reliability. Naturally advanced features are also included on one single display unit, the POWER PANEL.



The top half of the screen shows the main measured value, with on the top global icons. In the bottom part is the secondary value (for example the diameter if on the top the position of the feature) and icons changing depending on the actual menu, those icons are related to the functions buttons.

1. Main measured value
2. Secondary measured value and icons for functions buttons.
3. function button, according to screen
4. Numerical keys
5. Management keys, delete, confirm, programs etc.

POWER PANEL 00760163

Display size LCD	128 x 63 mm (double display)
Resolution	0.0001/0.001/0.01 mm – .00001/.0001/.001 in
Number of decades	7 plus sign "-"
Character size	12.7 x 6.4 mm (main) ; 6.3 x 4.2 (secondary)
Additional display	symbols for the functions
Keyboard	32 keys for functions and numbers
Degree of protection	IP40

Thermo paper, roll wide 57mm (1pce) 04765008

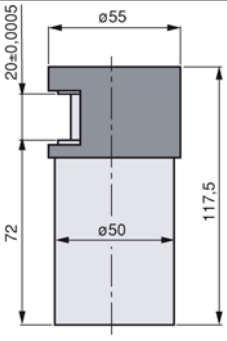
Characteristics

Micro - Hite	**350**	**600**	**900**
Order number	*00730033*	*00730034*	*00730035*
Measuring span	365 mm / 14 in	615 mm / 24 in	920 mm / 36 in
Application range 00760143	520 mm / 20 in	770 mm / 30 in	1075 mm / 42 in
00760057	575 mm / 22 in	825 mm / 32 in	1130 mm / 44 in
S07001622	745 mm / 29 in	995 mm / 39 in	1300 mm / 51 in
Max. permissible error*	(2+3*L) µm (L en m) / (0.0001+0.000003*L) in (L en in)		
Repeatability*	2s=<1µm / 2s=< 0.00005in		
Max. perpendicularity error	7 µm / 0.00028 in	9 µm / 0.00035 in	11 µm / 0.00043 in
Instrument base	grey cast iron with rectified sole		
Guidance across the reference surface	through mechanical contact		
Coefficient of linear expansion	12 ±1.5*10^{-6} ° K^{-1}		
Maximum perm. displacement speed	300 mm/s		
Measuring force	1.6 +/- 0.25 N (acoustic signal)		
Measuring process	automatic		
Air cushion	Yes		
Head displacement	manual		
Power supply	6V rechargeable battery		
Autonomy	12 hours, recharging time 8 hours		
Material measure	incremental glass scale with reference point		
Measuring head lock	Yes		
Fine adjustment	No		
Operating temperature range	10°C à 40°C		
Storage temperature range	-10°C à 60°C		
Humidity relative maximum	80 %		
Weight	33Kg	38Kg	45Kg
Degree of protection	IP40		
Data output	RS 232		
Certificate	SCS		

** Valid with standard accessories*

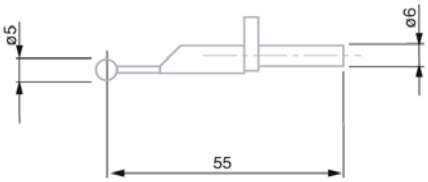
Delivery content

Setting gauge 20 mm



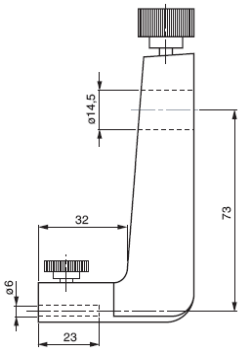
Nr.: 00760150

Measuring probe diam. 5mm



Nr.: 00760062

Standard probe holder diameter 6mm.

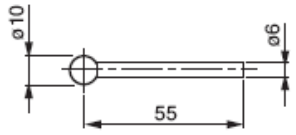


Nr.: 00760143

also:
- 1 power adapter with EU and US cable
- 1 certificate SCS
- 1 user manual with declaration of conformity
- 1 protection cover

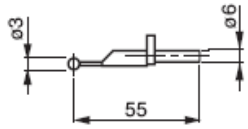
Optional accessories

Measuring insert with tungsten carbide ball, Ø 10mm



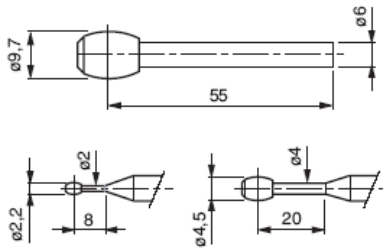
nr. **00760060***

Measuring insert with tungsten carbide ball tip, Ø 3 mm.



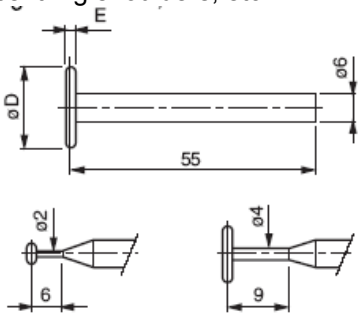
nr. **00760061***

Measuring insert with tungsten carbide measuring face (convex), for inspecting cylindrical bores or establishing internal thread position (metric or similar).



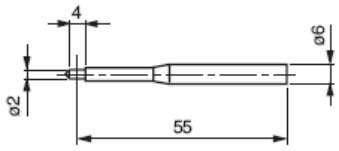
Ø = 2.2mm for M3 to M16 nr. **00760066**
Ø = 4.5mm for M6 to M48 nr. **00760067**
Ø = 9.7mm for M12 to M150 nr. **00760068**

Measuring insert With disc-shaped, tungsten carbide measuring face for measuring grooves, turned grooves, centring shoulders, etc.

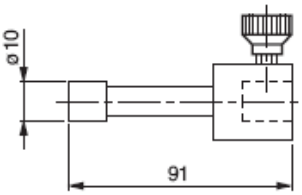


E = 1mm / Ø 4.5 mm nr **00760074**
E = 2mm / Ø 14 mm nr **00760075***
E = 3mm / Ø 19 mm nr **00760076**

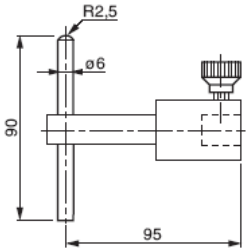
Measuring insert with small tungsten carbide measuring face, Ø 2 mm, nr. **00760082**



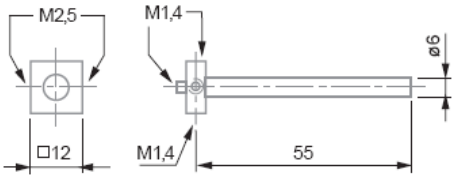
Measuring insert with Ø 10 mm tungsten carbide cylindrical face and 12 mm length. Hardened stainless steel body.
nr. **00760093***



Measuring insert With both a flat and spherical tungsten carbide measuring face. Hardened stainless steel pin, interchangeable. nr. **00760094***

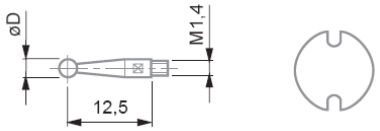


Insert holder For measuring inserts with M1,4 threads (see opposite) and M2,5 threads.



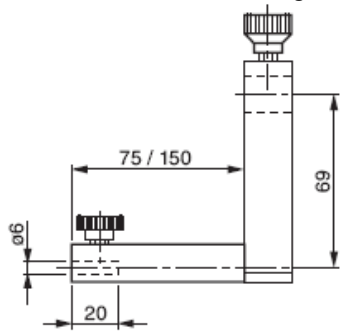
nr. **00760096***

Measuring insert With tungsten carbide ball tip with M1,4 thread.



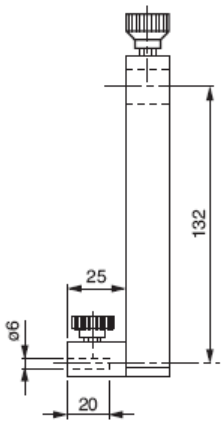
Ø 1mm nr. **01860201***
Ø 2mm nr. **01860202*** Key
Ø 3mm nr. **01860203*** nr. **01860307***

Insert holder for increasing the measuring depth.



Depth L=75mm nr. **00760086**
L=150mm nr. **00760087**

Insert holder for extending the application range.

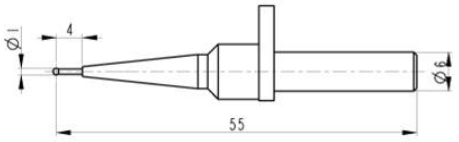


nr. **00760057**

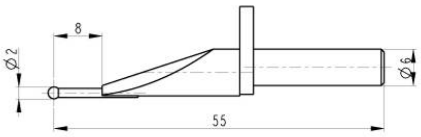
Partial set of accessories nr. 00760173
With those of the above accessories marked by an asterisk «*». Supplied in a polypropylene case (not shown on these pages).

Full set of accessories nr. 00760148
With all above accessories. Supplied in a polypropylene case (not shown on these pages).

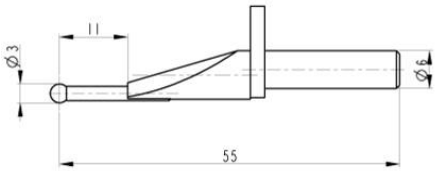
Measuring inserts with hard metal shaft and tungsten carbide ball tip:



Diameter 1 mm nr. **00760228**



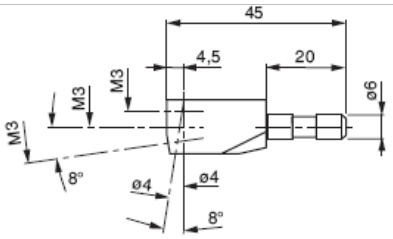
Diameter 2 mm nr. **00760229**



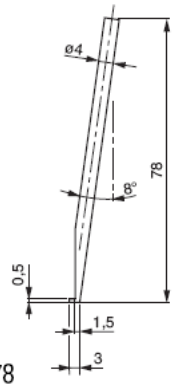
Diameter 3 mm° nr. **00760230**

Probe insert set nr. 00760175: *Supplied in a suited plastic case.*

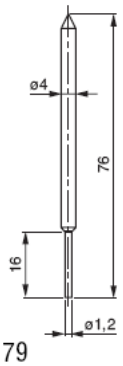
1	Insert holder	00760177
1	Probing pin In hardened steel for grooves, centring shoulders, blind bores, etc. Tilted through 8°	00760178
1	Probing pin In hardened steel, shouldered, for depth measurement	00760179
3	Measuring inserts with a hardened ball tip, Ø 0.9 mm Ø 1.9 mm Ø 2.9 mm	 00760180 00760181 00760182
1	Measuring insert with a Ø 8 mm cone-shaped measuring face in hardened steel	00760183
2	Extensions Length 20 mm, thread M3 to M3 Length 20 mm, thread M3 to M2,5	 00760184 00760185



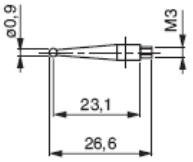
00760177



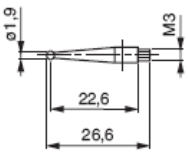
00760178



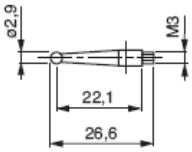
00760179



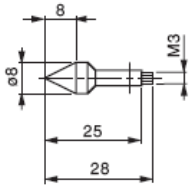
00760180



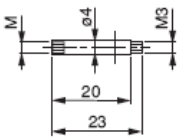
00760181



00760182



00760183



00760184/5

Connection & traceability

MiniDin 8p / Sub-D 9p

Nr. 04761023
Lenght 2m

Adapter Sub-D to USB

Nr. S47120002
Connection adapter for Sub-D to USB
Lenght 0.1m
content : cable, Installation-CD

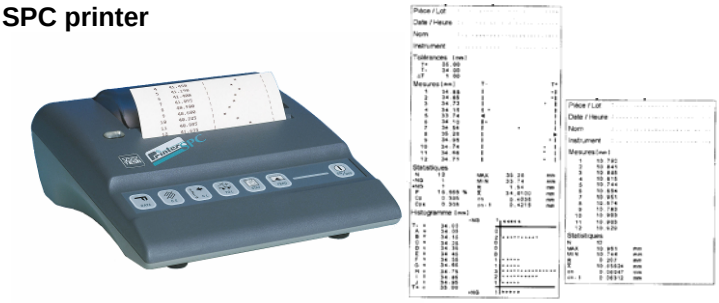
Battery 6V

nr. 00760157

Power supply adapter 110 to 240 Vac / 50 to 60 Hz
Mains cable EU:
Mains cable US:

nr. 04761054
nr. 04761055
nr. 04761056

SPC printer



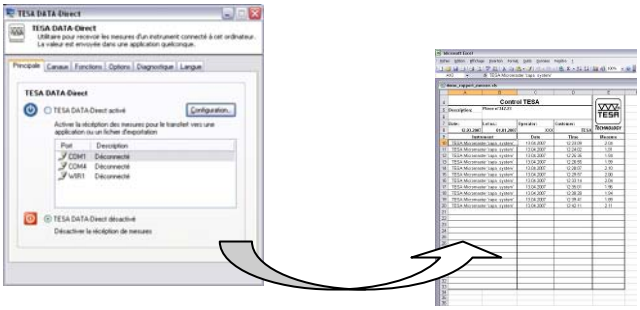
nr. 06430000

Direct print using simple statistics with tolerance mode and distribution graphic.

Content : Paper thermo sensible, power supply, user manual

Need connection cable 9pin m/f, nr. 04761052

TESA DataDirect



nr. 04981001

Utility for acquisition of measurements from various inputs (from Calipers to 3D machines). Transfer to any other Windows program the measured value with additional details and paging management for Excel or similar. Also possible, direct export as *.csv file for background archiving.

Content :
- Installation CD
- User manual as PDF on CD-Rom
- USB dongle

TESA StatExpress

nr. 04981002

From transfer to final report with statistics, the software manages all the process. Personalized headline and comments are also considered into printed reports.

Content :
- Installation CD (including DataDirect)
- User manual as PDF on CD-Rom
- USB dongle

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